

# Joy Wolfram

Curriculum Vitae (1/2015)

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Nationality: Finland

Age: 25

## Career Objectives

Develop and commercialize novel, effective, and clinically applicable nanotherapies for the treatment of cancer. Generate inter-institutional research and business collaborations around the world.

## Education

2012-present

**Ph.D. student** (Nanoscience and Technology), National Center for Nanoscience and Technology, University of Chinese Academy of Sciences, Beijing, China.

2010

**M.S.** (Biology), Department of Biosciences, University of Helsinki, Helsinki, Finland.

2007-2010

**B.S.** (Biology), Department of Biosciences, University of Helsinki, Helsinki, Finland.

## Positions

11/2011-present

**Research Fellow**, Mauro Ferrari Group, Department of Nanomedicine, Houston Methodist Research Institute, Houston, Texas, USA. (Design and evaluation of nanotherapeutics for cancer therapy).

5-10/2010

**Visiting Scholar**, Department of Molecular and Cellular Biology Research, Sunnybrook Health Sciences Centre, Toronto, Canada. (Preclinical evaluation of antiangiogenic receptor tyrosine kinase inhibitors).

7-9/2009

**Amgen Scholar**, Department of Oncology and Pathology, Karolinska Institutet, Stockholm, Sweden. (Characterization of angiotensin-like protein 2).

1-6/2009

**Student Researcher**, Electron Microscopy Unit, Institute of Biotechnology, University of Helsinki, Helsinki, Finland. (Imaging of mitochondria with transmission electron microscopy).

6/2008-4/2010

**Research Assistant**, International Bioenergetics Group, Institute of Biotechnology, University of Helsinki, Helsinki, Finland. (Assessment of respiratory enzymes in mitochondria).

## Awards/Scholarships

2015

**Research Grant**, Victoriastiftelsen, Finland.

9600 €

2014

**President's Scholarship** (second prize), National Center for Nanoscience and Technology, China.

2000 ¥

2014

**Workshop Fellowship**, University Magna Græcia of Catanzaro, Catanzaro, Italy.

300 €

2014

**Excellent Graduate Student Award**, University of Chinese Academy of Sciences, China.

Certificate

2014

**Conference Fellowship**, European Foundation of Clinical Nanomedicine, Switzerland.

~ 780 €

2014

**Travel Fellowship**, Tel Aviv University, Israel.

~ 3500 ₪

2014

**Research Grant**, Victoriastiftelsen, Finland.

19200 €

2013

**Travel Award**, Amgen Foundation, USA.

1000 £

2012

**Excellent Student Award**, Intensive Chinese Language Course, University of Chinese Academy of Sciences, China.

Certificate

2011

**Research Grant**, Nylands nation, Finland.

18800 €

2011

**Research Grant**, Svenska Kulturfonden, Finland.

6000 €

2010

**Student Scholarship Award**, Suomen Kulttuurirahasto, Finland.

4000 €

2010

**Travel Award**, University of Helsinki, Finland.

2000 €

2010

**Travel Award**, Svenska studiefonden, Finland.

1200 €

2009

**Amgen Scholarship**, Amgen Foundation, USA.

2000 €

2009

**Student Scholarship Award**, Svenska folkskolans vänner, Finland.

700 €

2005

**Travel Award**, Nordiska Naturvetare (NORNA) Unga Forskare, Sweden.

Trip expenses

**Publications**

(\*Corresponding author)

- 1) Yang Z\*, Sun Z\*, Liu H, Ren Y, Shao D, Zhang W, Lin J, **Wolfram J**, Nie S. Connective tissue growth factor (CTGF) stimulates proliferation, migration, and differentiation of lung fibroblasts during paraquat-induced pulmonary fibrosis. *Int J Mol Med* 2014; accepted.
- 2) **Wolfram J\***, Zhu M, Yang Y, Shen J, Gentile E, Paolino D, Fresta M, Nie G, Chen C, Shen H, Ferrari M, Zhao Y\*. Safety of nanoparticles in medicine. *Curr Drug Targets* 2014; in press (doi: 10.2174/1389450115666140804124808).
- 3) Shen J, Wu X, Lee Y, **Wolfram J**, Yang Z, Mao ZW\*, Ferrari M, Shen H\*. Porous silicon microparticles for delivery of siRNA therapeutics. *JoVE*, 2014; in press (doi: 10.3791/52075)
- 4) Suri K, **Wolfram J**, Shen H, Ferrari M\*. Advances in nanotechnology based drug delivery platforms and novel drug delivery systems. *Novel Formulations for Biologics, Vaccines and Cancer Therapy*, Elsevier, 2015; 41-58.
- 5) Pasut G, Paolino D, Celia C, Mero A, Joseph AS, **Wolfram J**, Cosco D, Schiavon O, Shen H, Fresta M\*. Polyethylene glycol (PEG)-dendron phospholipids as innovative constructs for the preparation of super stealth liposomes for anticancer therapy. *J Control Release*, 2014;199C:106-113.
- 6) **Wolfram J**, Yang Y, Shen J, Moten A, Chen C, Shen H, Ferrari M, Zhao Y\*. The nano-plasma interface: Implications of the protein corona. *Colloids Surf B Biointerfaces*, 2014;124:17-24.
- 7) Jiang X, Chen Z\*, **Wolfram J**, Wei Z, Shen Y, Yang Z. The impact of lubricants on the precision lapping process. *Microsc Microanal*, 2014;12:1-7.
- 8) Shen J, Kim HC, Mu C, Gentile E, Mai J, **Wolfram J**, Ji LN, Ferrari M, Mao ZW\*, Shen H\*. Multifunctional gold nanorods for siRNA gene silencing and photothermal therapy. *Adv Healthc Mater*, 2014;3(10):1629-1637.
- 9) **Wolfram J**, Suri K, Huang Y, Molinaro R, Borsoi C, Scott B, Boom K, Paolino D, Fresta M, Wang J, Ferrari M, Celia C\*, Shen H\*. Evaluation of anticancer activity of celastrol liposomes in prostate cancer cells. *J Microencapsul*, 2014;31(5):501-507.
- 10) Jiang X, Chen Z\*, **Wolfram J**, Yang Z. Mechanistic features of nanodiamonds in the lapping of magnetic heads. *ScientificWorldJournal*, 2014;2014:326426.
- 11) Paolino D, Cosco D, Gaspari M, Celano M, **Wolfram J**, Voce P, Puxeddu E, Filetti S, Celia C, Ferrari M, Russo D, Fresta M\*. Targeting the thyroid gland with thyroid-stimulating hormone (TSH)-nanoliposomes. *Biomaterials*, 2014;35(25):7101-7109.
- 12) Yang Y\*, **Wolfram J**, Shen H, Fang X, Ferrari M\*. Polyarginine induces an antitumor immune response through binding to toll-like receptor 4 (TLR4). *Small*, 2014;10(7):1250-1254.
- 13) Shen J, Kim HC, Su H, Wang F, **Wolfram J**, Kirui D, Mai J, Mu C, Ji LN, Mao ZW\*, Shen H\*. Cyclodextrin and polyetylenimine functionalized mesoporous silica nanoparticles for delivery of siRNA cancer therapeutics. *Theranostics*, 2014;4(5):487-497.
- 14) **Wolfram J\***, Suri K, Yang Y, Shen J, Celia C, Fresta M, Zhao Y, Shen H, Ferrari M\*. Shrinkage of pegylated and non-pegylated liposomes in serum. *Colloids Surf B Biointerfaces*, 2014;114:294-300.
- 15) Rauhamäki V, **Wolfram J**, Jokitalo E, Hanski I, Dahllhoff EP\*. Differences in the aerobic capacity of flight muscles between butterfly populations and species with dissimilar flight abilities. *PLoS One*, 2014;9(1):e78069.
- 16) Yang Y\*, **Wolfram J**, Shen J, Zhao Y, Fang X, Shen H, Ferrari M\*. Live-cell single-molecule imaging reveals clathrin and caveolae dependent docking of SMAD4 at the cell membrane. *FEBS Lett*, 2013;587(114):3912-3920.
- 17) Molinaro R#, **Wolfram J**#, Federico C, Cilurzo F, Di Marzio L, Ventura CA, Carafa M, Celia C, Fresta M\*. Polyethylenimine (PEI) and chitosan carriers for the delivery of RNAi effectors. *Expert Opin Drug Deliv*, 2013;10(12):1653-1668. (# equal contribution).
- 18) Gentile E, Cilurzo F, Di Marzio L, Carafa M, Ventura CA, **Wolfram J**, Paolino D, Celia C\*. Liposomal chemotherapeutics. *Future Oncol*, 2013;9(12):1849-1859.

- 19) Celia C, Trapasso E, Locatelli M, Navarra M, Ventura CA, **Wolfram J**, Carafa M, Morittu VM, Britti D, Di Marzio L\*, Paolino D\*. Anticancer activity of liposomal bergamot essential oil (BEO) on human neuroblastoma cells. *Colloids Surf B Biointerfaces*, 2013;112:548-553.
- 20) Shen J, Xu R, Mai J, Kim HC, Guo X, Qin G, Yang Y, **Wolfram J**, Mu C, Xia X, Gu J, Liu X, Mao ZW, Ferrari M, Shen H\*. High capacity nanoporous silicon carrier for systemic delivery of gene silencing therapeutics. *ACS Nano*, 2013;7(11):9867-988
- 21) Yang Y\*, **Wolfram J**, Boom K, Fang X, Shen H, Ferrari M\*. Hesperetin impairs glucose uptake and inhibits proliferation of breast cancer cells. *Cell Biochem Funct*, 2013;31(5):374-379.
- 22) Yang Y\*, **Wolfram J**, Shen H, Fang X, Ferrari M\*. Hesperetin: an inhibitor of the transforming growth factor- $\beta$  (TGF- $\beta$ ) signaling pathway. *Eur J Med Chem*, 2012;58:390-395.

### Conferences

- 1) **Wolfram J**. The nano-bio interface. Mini-Workshop for Nanosystems and Health Science, Catanzaro, Italy 7/2014. Oral presentation.
- 2) **Wolfram J**. Shrinkage of pegylated and non-pegylated liposomes in serum. The European Summit of Clinical Nanomedicine and Targeted Medicine, Basel, Switzerland 6/2014. Oral presentation.
- 3) **Wolfram J**, Yang Y, Celia C, Shen H, Zhao Y, Ferrari M. Shrinkage of pegylated and non-pegylated liposomes in serum. Tel Aviv University Summer School on Nanomedicine and Innovation, Tel Aviv, Israel 6/2014. Poster display.
- 4) EY World Entrepreneur of the Year™, Monte Carlo, Monaco 6/2014. Attendance.
- 5) **Wolfram J**, Yang Y, Celia C, Shen H, Zhao Y, Ferrari M. Shrinkage of pegylated and non-pegylated liposomes in serum. NanoBio-Europe: International Congress & Exhibition on Nanobiotechnology, Münster, Germany 6/2014. Poster display.
- 6) **Wolfram J**, Suri K, Yang Y, Di Marzio L, Celia C, Fresta M, Shen H, Ferrari M. Shrinkage of pegylated and non-pegylated liposomes in biological fluid. 9<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Lisbon, Portugal 4/2014. Poster display.
- 7) **Wolfram J**, Celia C, Borsoi C, Moten A, Paolino D, Fresta M, Shen H, Ferrari M, Di Marzio L, Carafa M. Celastrol-loaded liposomes as nano-drugs for the potential treatment of prostate cancer. 9<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Lisbon, Portugal 4/2014. Poster display.
- 8) Celia C, Trapasso E, Locatelli M, Cosco D, Ventura CA, **Wolfram J**, Carafa M, Morittu V, Di Marzio L, Paolino D. Bergamot essential oil (BEO)-loaded liposomes: nanoformulation for anticancer activity on neuroblastoma cells. 9<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Lisbon, Portugal 4/2014. Poster display.
- 9) **Wolfram J**, Ferrari M, Zhao Y. Joint collaboration between the National Center for Nanoscience and Technology (NCNST) and the Houston Methodist Research Institute. ChinaNano2013: International Conference on Nanoscience and Technology, Beijing, China 9/2013. Poster display.
- 10) **Wolfram J**, Yang Y, Shen H, Zhao Y, Ferrari M. Shrinkage of pegylated and non-pegylated liposomes in serum. ChinaNano2013: International Conference on Nanoscience and Technology, Beijing, China 9/2013. Poster display.
- 11) Yang Y, Ji L, **Wolfram J**, Shen H, Fang X, Ferrari M. Polyarginine induces an antitumor immune response through binding to toll-like receptor 4 (TLR4). ChinaNano2013: International Conference on Nanoscience and Technology, Beijing, China 9/2013. Poster display.
- 12) 9<sup>th</sup> World Biomaterials Congress, Chengdu, China 6/2012. Poster display.
- 13) Koay E, Kirui D, Yang Y, **Wolfram J**, Shen H, Ferrari M. Toward understanding and overcoming multiscale mass transport differentials in cancer. Third Annual Physical Sciences – Oncology Centers (PS-OCs) Investigators Meeting, Florida, USA 4/2012. Poster display

- 14) **Wolfram J**, Mojallal M, Zheng Y, Holmgren L. Angiotensin-like protein 2 (AmotL2), a potential target for cancer therapy. Amgen symposium, University of Cambridge, United Kingdom 9/2009. Poster display.

**Certification**

2013

**Basic Current Good Manufacturing Practices Training for Start-Ups**, Ostrove Associates, Houston, Texas, USA. (Three day full-time training course in the regulations of the US Food and Drug Administration).

2004-2005

**Junior Achievement Young Enterprise**, Helsinki, Finland. (Educational program in Entrepreneurship. Founded small company).

**Languages**

**English** (fluent, TOEFL iBT 115/120); **Swedish** (fluent); **Finnish** (fluent); **Chinese** (satisfactory)